

FACT SHEET
Peabody Western Coal Company - Black Mesa Complex
NPDES Permit No. NN0022179

Proposed Permit Draft: 1/20/08

Applicant address: Peabody Western Coal Company
Black Mesa Complex
P.O. Box 650
Kayenta, AZ 86033

Applicant contact: Gary Wendt, Environmental Manager
(928)677-5130
gwendt@peabodyenergy.com

Facility Address: P.O. Box 650
Kayenta, AZ 86004

Facility Contact: Gary Wendt

I. Status of Permit

EPA re-issued the current National Pollutant Discharge Elimination System Program (ANPDES@) Permit (No. NN0022179) for the discharge of treated wastewater to the Peabody Western Coal Company (PWCC), Black Mesa/Kayenta Mine Complex on December 29 2000. On August 3, 2005 PWCC filed a timely renewal of its NPDES permit for discharge of wastewater into waters of the United States. EPA has administratively continued the permit since its expiration on February 1, 2006. PWCC also has coverage under the federal Multi-Sector General Permit for stormwater (AZR05A80F). During the past permit term, EPA has modified the permit several times to incorporate new outfalls and to eliminate expired outfalls due to the ongoing mining activities.

This proposed permit incorporates new regulatory requirements for the Western Alkaline Coal Mining Subcategory for reclamation areas (promulgated January 2002) and incorporates revisions to the Seep Monitoring and Management Plan that was required in the last permit. Additionally, several new outfall locations have been added and several have been eliminated due to the ongoing mining activities. Several changes to the requirements for conducting a seep management monitoring plan in the previous permit have been revised to reflect results of the monitoring study. No other significant changes have been made to the permit.

II. Background

The Black Mesa/Kayenta mine has operated since the early 1970s southwest of Kayenta, Arizona. The complex is located on approximately 65,219 acres of land leased within the boundaries of the Hopi and Navajo Indian Reservations primarily located in Navajo County, Arizona. About 25,000 acres of the lease area mineral rights are owned exclusively by the Navajo Nation, and 40,000 are owned jointly by the Navajo and Hopi Tribes. The Kayenta mining operation is the sole supplier of coal to the Navajo Generation Station, located near Page, Arizona. The Black Mesa mining operation was the sole supplier of coal to the Mojave Generating Station, located in Laughlin, Nevada. Coal supplied to the Mojave Generating Station was supplied via a 273 mile long pipeline thru which coal was slurried. The Mojave Generating Station ceased production in December 2005, and mining operations at the Black Mesa Mine have been temporarily suspended.

On February 17, 2004 PWCC filed a Life of Mine permit revision application to the Office of Surface Mining Reclamation and Enforcement (OSMRE) proposing several revisions to the Life of Mine Permit. The Life of Mine permit authorizes PWCC to mine coal and is a separate permitting activity from the NPDES permit which authorizes PWCC to discharge treated wastewater. EPA is a Cooperating Agency on the Environmental Impact Analysis being conducted for the Life of Mine Permit. OSMRE published a draft Environmental Impact Statement in November 2006 (DOI DES 06-48). PWCC recently submitted a revised Life of Mine application to OSM in early July, 2008. OSMRE is in the process of developing the final EIS.

III. Receiving Water

Discharges from the Black Mesa Complex are to receiving waters located on the Navajo and Hopi Indian Reservations. Receiving waters are comprised of two principal drainages within the Black Mesa Complex, and include Moenkopi Wash and Dinnebito Wash, both of which are ephemeral washes with short intermittent reaches that drain southwest to the Little Colorado River system. There are five large washes that are tributaries to the Moenkopi Wash, and include Coal Mine, Yellow Water Canyon, Yucca Flat, Red Peak Valley, and Reed Valley Washes.

The Navajo Nation Surface Water Quality Standards (ANNSWQS@) were originally approved by the Resources Committee of the Navajo Nation Council on November 9, 1999. Amendments to the NNSWQS were approved by the Resources Committee on July 30, 2004. The Navajo Nation received A Treatment as a State@ for the purposes of ' 106 and ' 303 of the CWA. EPA has approved the Navajo Nation=s water quality standards in January, 2006. Therefore, this permit incorporates limits and standards for the protection of receiving waters in accordance with NNSWQS.

The designated uses of the receiving waters for the Moenkopi Wash and its tributaries

and Dinnebito Wash are Secondary Human Contact (ScHC), Ephemeral Warm Water Habitat (EphWWhbt), and Livestock and Wildlife Watering (L&W).

The Hopi Tribe approved Surface Water Quality Standards in August 1997. The Hopi Tribe has not received A Treatment as a State for the purposes of ' 106 and ' 303 of the CWA, and EPA has not approved the Hopi Water Quality Standards. Therefore, EPA may use Hopi Standards as guidance for surface water criteria onto the Hopi Reservation. Surface waters on the Hopi Reservation are tributaries to waters located in Arizona.

IV. Description of Discharge

The discharge includes runoff from active mine areas, coal preparation plant areas, and reclamation areas. The discharge meets the definition of “alkaline mine drainage”, defined at 10 CFR Part 434 as having a pH > 6.0 and total iron < 10 mg/L prior to treatment.

During the previous permit term, there have been several discharges from the Black Mesa Mine Complex, most in response to precipitation events. A limited number of discharges have occurred as a result of lagoon dewatering.

Additionally, the permittee has conducted a Seepage Monitoring and Management Report in compliance with the previous permit. The permittee regularly inspected outfall ponds for seeps, and documented seep discharge volumes and sampling results, which was submitted in an annual report each year. A complete discussion of the Seep Monitoring results is presented in Section VI of this fact sheet.

V. Regulatory Basis of Proposed Effluent Limits

Section 301(a) of the Clean Water Act provides that the discharge of any pollutant to waters of the United States is unlawful except in accordance with an NPDES permit. Section 402 of the Act establishes the NPDES program. The program is designed to limit the discharge of pollutants into waters of the U.S. from point sources (40 CFR 122.1 (b)(1)) through a combination of various requirements including technology-based and water quality-based effluent limitations.

Technology-based effluent limitations

Under 40 CFR Part 125.3(c)(2), Technology based treatment requirements may be imposed on a case-by-case basis under Section 402(a)(1) of the Act, to the extent that EPA promulgated effluent limitations are inapplicable, i.e., the regulation allows the permit writer to consider the appropriate technology for the category or class of point sources and any unique factors relating to the applicant.

The discharge of wastewater from coal mines is subject to 40 CFR Part 434: Coal Mining Point Source Category BPT, BAT, BCT Limitations and New Source Performance Standards. The Black Mesa Complex has the potential to discharge wastewater from

separate sources that are subject to separate subcategories of Part 434. These include:

A. Appendix A Outfalls – “Alkaline Mine Drainage”

These outfalls meet the definition of "alkaline, mine drainage" in 40 CFR Part 434.11(c). Therefore, the proposed permit sets limits for these outfalls in accordance with the requirements of ASubpart D - Alkaline Mine Drainage@ for BPT, BCT, and BAT regulations that apply to such discharges. The proposed permit sets discharge limits for these outfalls for Iron (3.5 mg/l daily average and 7.0 mg/l daily maximum), Total Suspended Solids (TSS)(35 mg/l daily average and 70 mg/l daily maximum), and pH (no less than 6.0 or greater than 9.0 standard pH units). Flow volumes, iron, TSS and pH monitoring is required during any event. These requirements are consistent with those of the previous permit.

B. Appendix B Outfalls – “Coal Preparation & Associated Areas”

These outfalls meets the definition in 40 CFR 434.11(e), (f) and (g) for "coal preparation plant@, Acoal preparation plant and associated areas", and Acoal preparation plant water circuit@, respectively. Therefore, the proposed permit sets limits for the outfall in accordance with ASubpart B - Coal Preparation Plants and Coal Preparation Plant Associated Areas@ for BPT, BCT, and BAT regulations that apply to such discharges. The requirements for the Outfalls listed in Appendix B are the same as those for Aalkaline, mine drainage@, with the addition of limitations and monitoring requirements for manganese (2.0 mg/l daily average and 4.0 mg/l daily maximum). The permit retains the monitoring and effluent limits for oil and grease in the previous permit. These requirements are consistent with those of the previous permit.

C. Appendix C Outfalls – “Western Alkaline Reclamation Areas”

These outfalls meet the definition of ASubpart H- Western Alkaline Coal Mining@, which applies to Aalkaline mine drainage at western coal mining operations from reclamation areas, brushing and grubbing areas, topsoil stockpiling areas, and regraded areas.@ (40 CFR Part 434.81). In accordance with the requirements established in Subpart H; the operator has:

- 1) submitted a site-specific Sediment Control Plan to EPA incorporating the minimum requirements of 40 CFR Part 434.82,
- 2) demonstrated that implementation of the Sediment Control Plan will result in average annual sediment yields that will not be greater than the sediment yield levels from pre-mined, undisturbed conditions.

The operator submitted these materials to EPA in a letter and attachments on September 24, 2008. These materials are part of the Administrative Record for the proposed permit and are available for public review.

Therefore, EPA proposes to approve the Sediment Control Plan consistent with the requirements of Subpart H. Additionally, in accordance with Subpart H, the proposed permit requires that the approved Sediment Control Plan be incorporated into the permit as an effluent limit, and requires that the permittee design, implement, and maintain the BMPs in the manner specified in the Sediment Control Plan.

EPA Region IX and the Office of Surface Mining Reclamation and Enforcement Office (OSM) entered a Memorandum of Understanding on December 19, 2003: A Process for Obtaining A NPDES Permit Under Subpart H - Western Alkaline Mine Drainage Category. Working through the process outlined in the MOU, OSM is conducting a technical review of the Sediment Control Plan submitted by the Permittee. EPA has concluded that the Sediment Control Plan has been submitted in accordance with the requirements of 40 CR Part 434, and that the Sediment Control Plan meets the minimum requirements to demonstrate that the average annual sediment yields that will not be greater than the sediment yield levels from pre-mined, undisturbed conditions. If comments are received on the proposed permit, EPA will continue to work with OSM and the Tribes on the response prior to approving the Sediment Control Plan and prior to issuing this permit.

As existing outfalls defined in this permit as Aalkaline mine drainage are reclaimed, the Sediment Control Plan may be updated to incorporate additional outfalls. A revised Plan must be submitted to EPA and approved by EPA before it becomes effective. The revised plan will also be reviewed by OSMRE prior to EPA approving the revisions. Revisions to the Sediment Control Plan must meet all requirements contained at 40 CFR Part 434.82, and 100% of the drainage areas to an outfall must meet the definition of Subpart H to be considered for coverage under Subpart H. EPA's approval of an updated Sediment Control Plan and reclassification of an existing outfall from Aalkaline mine drainage to Subpart H requirements will be considered a minor modification to the permit.

2. Water Quality-Based Effluent Limitations

Sections 402 and 301(b)(1)(C) of the Clean Water Act require that the permit contain effluent limitations that, among other things, are necessary to meet water quality standards. 40 CFR 122.44(d) provides that an NPDES permit must contain:

A Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

40 CFR 122.44 (d)(1)(i) states:

ALimitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.@

40 CFR 122.44 (d) (1) (ii) states:

AWhen determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water.@

40 CFR122.44 (d)(1) (iii) states:

AWhen the permitting authority determines using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.@

Guidance for the determination of reasonable potential to discharge toxic pollutants is included in both the Technical Support Document for Water Quality-Based Toxics Control (TSD) - Office of Water Enforcement and Permits, U.S. EPA, dated March 1991 and the U.S.EPA NPDES Permit Writers Manual - Office of Water, U.S. EPA, dated December 1996. EPA's technical support document contains guidance for determining the need for permit limits. In doing so, the regulatory authority must satisfy all the requirements of 40 CFR 122.44(d)(1)(ii). In determining whether the discharge causes, has the reasonable potential to cause or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants, the regulatory authority must consider a variety of factors. These factors include the following:

- X Dilution in the receiving water,
- X Existing data on toxic pollutants,
- X Type of industry,
- X History of compliance problems and toxic impacts,
- X Type of receiving water and designated use.

Based on an analysis of factors at the Black Mesa Complex operations and projected wastewater quality data provided in the application, EPA concluded there continues to be no "reasonable potential" to cause or contribute to an exceedance of water quality standards. This is consistent with the previous permit.

The proposed permit sets general conditions based on narrative water quality standards contained

in Section 203 of the NNSWQS. These standards are set forth in Section B (AGeneral Discharge Specifications@) of the permit.

VI Special Conditions- Seep Monitoring and Management Plan

Section A.5 of the previous permit required that PWCC conduct a Seepage Monitoring and Management Plan. The permit required the PWCC design and conduct a study plan to determine the source of, and pollutants in, seepages below impoundments. PWCC was required to:

- identify all seeps located within 100 meters downgradient of sediment impoundments,
- conduct sampling (or summary of current data if sufficient and valid) of seepages identified for pH, Iron (Total and Dissolved), Dissolved Oxygen, Selenium (Total and Dissolved) and Nitrates,
- conduct hydrogeologic modeling or studies in order to determine if the source the seeps are the impoundments and, if so, which impoundments, and
- determine the source of Selenium and Nitrates if data indicates that seepages have a reasonable potential to violate water quality standards.

There are over 230 impoundments on the Black Mesa Complex, many are internal impoundments for treatment and storage and which do not discharge to water of the U.S. There are currently 111 ponds that discharge to waters of the U.S. and which therefore are listed as NPDES outfalls in compliance with this permit. Seeps have been identified at 33 of these impoundments.

PWCC has been conducting seep monitoring and characterization of seeps since 1999. During each year, PWCC identified the following number of seeps with an identifiable flow where sampling was conducted:

1999 – 11 seeps sampled
2000 – 9 seeps sampled
2001 – 7 seeps sampled
2002 – 12 seeps sampled
2003 – 16 seeps sampled
2004 – 14 seeps sampled
2005 – 12 seeps sampled
2006 – 16 seeps sampled
2007 – 14 seeps sampled

Based on the results of the Seep Monitoring and Management Plan, EPA and PWCC have evaluated each of the seep locations.

Additionally, the permittee has conducted a Seepage Monitoring and Management Report in compliance with the previous permit. The permittee regularly inspected outfall ponds for seeps,

and documented seep discharge volumes and sampling results, which was submitted in an annual report each year.

Peabody submitted an “Interim Final Report” on April 1, 2008 summarizing the data collected at each of the seeps, including a description of the following information :

- Number of seep inspections
- Number of flows observed
- Range of flows observed
- Number of samples taken
- Exceedances of Livestock standards
- Exceedances of acute standards, exceedances of chronic standards
- Current use of pond (e.g., is it an outfall location; internal pond; treatment for reclaimed, active, or shop areas, etc. ?)
- Final use of pond, including an estimation if pond can be removed ?
- BMPs utilized (e.g., vegetation, fencing, dewatering)
- Potential BMPs to be evaluated (e.g., pond removal, vegetation, passive pH treatment, clay lining, dewatering, other)

Based on this summary, EPA and PWCC established a prioritization to address seeps including 1) reclaim as many ponds as possible 2) eliminate monitoring requirements for seeps not causing problems 3) continue monitoring where data is inconclusive 4) establish a permanent fix for problem areas and 5) explore if regulatory variances may be applicable for certain non-bioaccumulative parameters.

Based on this assessment, EPA has concluded that PWCC will continue the seep management plan. Several ponds where water quality problems in the seeps have been identified will be removed. At several other ponds, PWCC will install Best Management Practices to treat the seep, and monitoring will continue. In addition, EPA will explore the feasibility of granting a water quality variance for aluminum, TDS and sulfate as appropriate if their presence is due to naturally occurring conditions and at levels not exceeding background concentrations. A summary of the pond results is included below where EPA evaluated the risk level to water quality and assessed applicable BMPs. Water Quality Risk Levels:

Level 1: Generally contains: very low flows, few instances of observed seeps, seep meets WQS, seep may have one sample slightly above WQS.

Level 2: Generally contains: Medium flows, seeps detected at higher frequencies, multiple samples may be above WQS, samples above WQS are only slightly above WQS. No samples significantly above WQS. No bioaccumulative toxic pollutant above WQS.

Level 3: May be one or a combination of: High flows, high occurrence of seeps, multiple samples above WQS, or any sample significantly above WQS. Any sample of bioaccumulative toxic pollutant above WQS.

POND	Meeting WQS ?	Risk Level	Type	Existing BMPS	Notes	Peabody Conclusion for Revised Seep Management Plan	EPA Assessment for
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							Continued Monitoring & Management
BM-A1	No. Low pH, Nitrate (?), Aluminum.	2	Temporary		Pond treats process areas & cannot be removed	Install passive treatment. Remove pond eventually. Continue monitoring.	OK
J2-A	Yes Few seeps present	1	Permanent			Permanent Discontinue inspections.	OK
J3-D	No, Chloride. TDS. Aluminum, sulfate. Selenium (1/5 @ 67)	3	Permanent			Permanent Pursue Variance for Alum, TDS & sulfate	Selenium potential concern. Explore remove this pond and /or mitigation.
J3-E	Generally Yes Few seeps Alum, pH slightly above	1	Permanent		Drains shop area	Permanent Discontinue inspections	OK
J7-A	No TDS, Sulfate	1	Temporary		Will remove ~2011	Pond Removal ~2011 Pursue Variance for TDS, Sulfate	OK. Continue monitoring.
J7-CD	No Alum, TDS, sulfate, chromium	3	Temporary		Reclaimed	Remove Pond	OK. Remove ASAP
J7-Dam	No. Historically, TDS, Sulfate, pH. Se (4/16 @ 51-64)	3	Permanent	Artificial wetland. Fenced	Has met all stds over past 3 years. Levels decreasing.	Permanent. Increase wetland treatments. Continue annual monitoring	OK
J7-JR	No but very low flows [<0.01 gpm] TDS, Sulfate, Alum	2	Permanent		Drains Active mining areas	Permanent Pursue Variance for TDS, Sulfate, Alum	OK. Continue monitoring.
J16-A	No. TDS, sulfate	2	Permanent		Drains coal prep areas	Permanent Pursue Variance for TDS, sulfate	OK. Continue monitoring.
J16-E	No. pH. Se (5/5 @ 71-160)	3	Temporary		Drains active mining areas	Remove ~ 2009	PWCC must mitigate / document pre-existing seep.
J16-L	No seeps found	1	Permanent			Permanent Discontinue monitoring	OK

J19-D	No. TDS , sulfate	2	Temporary		New. Will treat stormwater for active areas for some time	Continue monitoring Pursue Variance for TDS, sulfate	OK. Continue monitoring.
J21-C	No. Aluminum	2	Permanent			Variance for Alum	OK. Continue monitoring.
J27-A	No. (1 sample) TDS, chloride	1	Temporary			Pursue Variance for TDS, chloride	OK. Continue monitoring.
J27-RC	No. (1 of 10 samples). TDS Sulfate	1	Permanent			Pursue Variance for TDS, sulfate	OK. Continue monitoring.
N6-C	No. 1 seep, 1 sample TDS, sulfate	1	temporary			Remove Pond	OK
N6-F	No. Low pH . high Alum	3	temporary			Remove Pond	OK
N14-B	No. Sulfate, TDS, Alum (1 sample > chronic)	2	temporary		Treats conveyor areas	Pursue Variance for TDS, sulfate, Alum	OK. (Temp pond.) Continue monitoring
N14-H	No. Sulfate (1 sample)	1	Permanent			Pursue Variance for sulfate	OK. Continue monitoring.
N14-P	No Sulfate, TDS, pH (5.3), Cadmium, Aluminum	2	temporary			Continue Monitoring Pursue Variance for TDS, sulfate, Aluminum	OK (Temp pond). Continue monitoring.
WW-9	No. sulfate, TDS, Aluminum	1	temporary			Continue monitoring Pursue Variance for TDS, sulfate, Aluminum	OK. Continue monitoring.

Based on this assessment, EPA has included requirements for the continuation of the revised seep management plan in the permit.

VII. Monitoring Requirements

The proposed permit requires discharge data obtained during the previous three months to be summarized and reported quarterly. If there is no discharge for the quarter, indicate AZero Discharge@. These reports are due January 28, April 28, July 28, and October 28 of each year. Duplicated signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator, the Navajo Nation EPA, and the Hopi Tribe Water Resources Office.

VIII. Threatened and Endangered Species

EPA has determined that the discharge in compliance with this permit will have no effect on threatened or endangered species. EPA has determined that due to the frequency of the discharge, effluent released in accordance with this permit will have no effect on any threatened or endangered species that may be present in the area. No requirements specific to the protection of endangered species are proposed in the permit. A copy of the permit and fact sheet is being sent to the U.S. Fish and Wildlife Service for review during the public comment period.

IX. Permit Reopener

The permit contains a reopener clause to allow for modification of the permit if reasonable potential is demonstrated during the life of the permit.

X. Standard Conditions

Conditions applicable to all NPDES permits are included in accordance with 40 CFR, Part 122.

XI. Administrative Information

Public Notice (A.A.C. R18-9-A907)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a draft NPDES permit or other significant action with respect to an NPDES permit or application. The basic intent of this requirement is to ensure that all interested parties have an opportunity to comment on significant actions of the permitting agency with respect to a permit application or permit. This permit will be public noticed in a local newspaper after a pre-notice review by the applicant and other affected agencies.

Public Comment Period (A.A.C. R18-9-A908)

Rules require that permits be public noticed in a newspaper of general circulation within the area affected by the facility or activity and provide a minimum of 30 calendar days for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

Public Hearing (A.A.C R18-9-A908(B))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if the Director determines there is a significant amount of interest expressed during the 30-day public comment period, or if significant new issues arise that were not considered during the permitting process.

XII. Additional Information

Additional information relating to this proposed permit may be obtained from the following locations:

U.S. Environmental Protection Agency, Region IX
CWA Standards & Permits Office Mail Code: WTR-5
75 Hawthorne Street
San Francisco, California 94105-3901
Telephone: (415) 972-3518
Attn: John Tinger or email: Tinger.John@EPA.gov

XIII. Information Sources

While developing effluent limitations, monitoring requirements and special conditions for the draft permit, the following information sources were used:

1. Water Quality Control Plan for the State of California, North Coast Region, as amended.
2. EPA Technical Support Document for Water Quality-based Toxics Control dated March 1991.
3. U.S. EPA NPDES Basic Permit Writers Manual (December 1996).
4. 40 CFR Parts 122, 131, and 133.
5. NPDES permit application forms 2A and 2S, provided in letter from Mr. Gary Wendt, PWCC, August 3, 2005.
6. Memorandum of Understanding: A Process for Obtaining A NPDES Permit Under Subpart H - Western Alkaline Mine Drainage Category, EPA Region IX and the Office of Surface Mining Reclamation and Enforcement Office (OSM), dated December 19, 2003.
7. Annual Seep Monitoring Reports, PWCC.